Description of 68501

Lunar sample 68501 is a mature highland soil from the Apollo 16 site. We have sieved some of the larger fragments (termed coarse fines) from this soil to illustrate some of the rock types from the heavily cratered highlands. They include feldspathic crystalline rocks of anorthositic or noritic composition, but many of the particles are microbreccias (fig. 58). Some fragments have been derived from melts produced by craters in the highlands.

Many types of glass and devitrified glass are present including agglutinates of soil particles. The vesicular glass in agglutinates was produced by micrometeorite bombardment of the soil. The gas that made the vesicles was water vapor derived by H reduction of FeO. Look for trains of minute Fe particles in the glass.

It is not easy to identify fragments in the highlands that are exotic to a site because the bedrock is very complex. However, it is apparent that the highlands are very rich in feldspar and that there are few opaques or fragments of mare basalts.

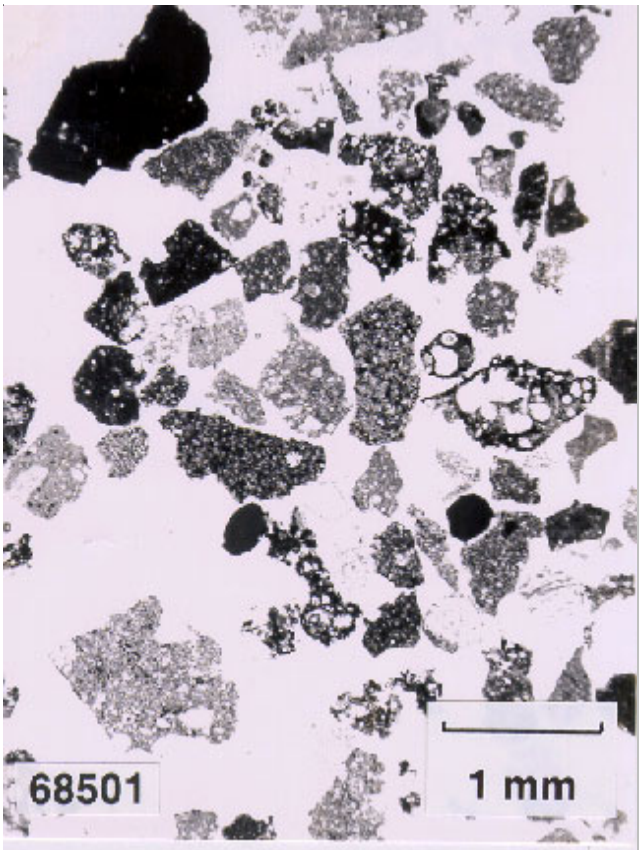

Figure 58 - Coarse-fine particles from mature highland soil 68501 including microbreccias and agglutinates.